<u>**Clean Version Of The Pending Claims Under 37 C.F.R. § 1.121(c)(3):**</u>

Claims 1-42 now pending, are submitted below in accordance with 37 C.F.R. §1.121(c)(3), which presents a clean version of the entire set of pending claims.

1.   **(Once Amended)** A method comprising:

identifying, in response to a search query, first multimedia objects having an associated keyword that matches a keyword in the search query and second multimedia objects that have content features similar to those of the first multimedia objects;

presenting the first and second multimedia objects to a user;

monitoring feedback from the user as to which of the first and second multimedia objects are relevant to the search query; and

annotating one or more of the multimedia objects, which are deemed relevant by the user, with the keyword.

2.   A method as recited in claim 1, further comprising:

maintaining associations between the keywords and the multimedia objects, the associations being weighted to indicate how relevant the keywords are to the multimedia objects; and

adjusting the weights of the associations based on the user's feedback.

3.   A method as recited in claim 2, wherein the adjusting comprises increasing a weight of an association between the keyword and a particular multimedia object that is deemed relevant by the user.

4. A method as recited in claim 2, wherein the adjusting comprises decreasing a weight of an association between the keyword and a particular multimedia object that is deemed irrelevant by the user.

5. A method as recited in claim 4, further comprising removing the keyword from the particular multimedia object in an event that the weight is less than a threshold value.

6. A method as recited in claim 1, further comprising training how the first and second multimedia objects are identified based on the user's feedback.

7. A method as recited in claim 1, further comprising refining the search to identify additional multimedia objects that contain content features similar to those of the multimedia objects indicated by the user as being relevant.

8. A method as recited in claim 1, wherein the multimedia objects comprise one of digital images, video objects, and audio objects.

9. A computer readable medium having computer-executable instructions that, when executed on a processor, perform the method as recited in claim 1.

10. A method comprising:

iteratively retrieving multimedia objects from a database and monitoring feedback from a user as to whether the multimedia objects are relevant to a keyword in a search query; and

annotating the multimedia objects based on the user's feedback, with the keyword.

11. A method as recited in claim 10, wherein the retrieving comprises using content-based information retrieval to retrieve the multimedia objects.

12. A method as recited in claim 10, wherein the retrieving comprises using both content-based information retrieval and semantic-based information retrieval to retrieve the multimedia objects.

13. A method as recited in claim 10, wherein the monitoring comprises monitoring both feature-based relevance feedback and semantic-based relevance feedback.

14. A method as recited in claim 10, wherein the annotating is hidden from the user.

15. A method as recited in claim 10, wherein the annotating comprises:

in an event that a particular multimedia object is deemed relevant by the user and is not yet annotated with the keyword, adding the keyword to the particular multimedia object; and

in an event that the particular multimedia object is deemed relevant by the user and is already annotated with the keyword, strengthening an association between the keyword and the particular multimedia object.

16. A method as recited in claim 10, wherein the annotating comprises:

in an event that a particular multimedia object is deemed irrelevant by the user and is already annotated with the keyword, weakening an association between the keyword and the particular multimedia object.

17. A computer readable medium having computer-executable instructions that, when executed on a processor, perform the method as recited in claim 10.

18. A method comprising:

retrieving multimedia objects according to a content-based retrieval process;

presenting the multimedia objects to a user;

monitoring feedback from the user as to which of the multimedia objects are relevant; and

annotating one or more of the multimedia objects based on the user's feedback, with a keyword.

19. A method as recited in claim 18, wherein the monitoring comprises monitoring both feature-based relevance feedback and semantic-based relevance feedback.

20. A method as recited in claim 18, wherein the annotating is hidden from the user.

21. A method as recited in claim 18, wherein the annotating comprises:

in an event that a particular multimedia object is deemed relevant by the user and not yet annotated with the keyword, adding the keyword to the particular multimedia object; and

in an event that the particular multimedia object is deemed relevant by the user and is already annotated with the keyword, strengthening an association between the keyword and the particular multimedia object.

22. A method as recited in claim 18, wherein the annotating comprises:

in an event that a particular multimedia object is deemed irrelevant by the user and is already annotated with the keyword, weakening an association between the keyword and the particular multimedia object.

23. A method as recited in claim 18, wherein the annotating comprises:

in an event that a particular multimedia object is deemed irrelevant by the user and is already annotated with the keyword, removing the keyword from the particular multimedia object.

24. A computer readable medium having computer-executable instructions that, when executed on a processor, perform the method as recited in claim 18.

25. A method comprising:

maintaining associations between keywords and multimedia objects, the associations being weighted to indicate how relevant the keywords are to the multimedia objects; and

retrieving a set of one or more multimedia objects for presentation to a user;

monitoring feedback from the user as to which of the multimedia objects are relevant; and

adjusting the weights of the associations based on the user's feedback.

26. A method as recited in claim 25, wherein the retrieving comprises using content-based information retrieval to retrieve the multimedia objects.

27. A method as recited in claim 25, wherein the retrieving comprises using both content-based information retrieval and semantic-based information retrieval to retrieve the multimedia objects.

28. A method as recited in claim 25, wherein the monitoring comprises capturing both feature-based relevance feedback and semantic-based relevance feedback.

29. A method as recited in claim 25, wherein the adjusting comprises increasing the weights of the associations between the keywords and the multimedia objects that are deemed relevant by the user.

30. A method as recited in claim 25, wherein the adjusting comprises decreasing the weights of the associations between the keywords and the multimedia objects that are deemed irrelevant by the user.

31. A computer readable medium having computer-executable instructions that, when executed on a processor, perform the method as recited in claim 25.

32. A system comprising:

an information retrieval unit to retrieve multimedia objects from a database based on a search query;

a relevance feedback unit to capture a user's feedback as to whether the multimedia objects are relevant to the search query; and

an annotation unit to annotate, with a keyword, the multimedia objects based on the user's feedback.

33. A system as recited in claim 32, wherein the search query comprises a keyword-based search query having one or more keywords.

34. A system as recited in claim 32, wherein the search query comprises a content-based search query having one or more content features.

35. A system as recited in claim 32, wherein the information retrieval unit employs both content-based information retrieval and semantic-based information retrieval.

36. A system as recited in claim 32, wherein the information retrieval unit comprises:

a query handler to handle both keyword-based queries having one or more search keywords and content-based queries having one or more content features of a multimedia object; and

a feature and semantic matcher to identify at least one of (1) first multimedia objects having keywords that match the search keywords from a keyword-based query, and (2) second multimedia objects having content features similar to the content features of a content-based query.

37. A system as recited in claim 32, wherein the relevance feedback unit employs both feature-based relevance feedback and semantic-based relevance feedback.

38. A system as recited in claim 32, wherein:

the search query comprises a keyword-based search query having at least one keyword; and

in an event that a particular multimedia object is deemed relevant by the user and is not yet annotated with the keyword, the annotation unit adds the keyword to the particular multimedia object.

39. A system as recited in claim 32, wherein:

the search query comprises a keyword-based search query having at least one keyword; and

in an event that a particular multimedia object is deemed relevant by the user and is already annotated with the keyword, the annotation unit strengthens an association between the keyword and the particular multimedia object.

40.   A system as recited in claim 32, wherein:

the search query comprises a keyword-based search query having at least one keyword; and

in an event that a particular multimedia object is deemed irrelevant by the user and is already annotated with the keyword, weakening an association between the keyword and the particular multimedia object.

41.   A system as recited in claim 32, wherein:

the search query comprises a keyword-based search query having at least one keyword; and

in an event that a particular multimedia object is deemed irrelevant by the user and is already annotated with the keyword, removing the keyword from the particular multimedia object.

42.   An image retrieval system as recited in claim 32, wherein the relevance feedback unit comprises a feedback analyzer to train the system based on the user's feedback.